

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Request by The City of Boston for Waiver of the)	PS Docket No. 06-229
Commission's Rules to Deploy a 700 MHz Public)	
Safety Interoperable Broadband Network That)	
Can Be Integrated into the Shared Wireless)	
Broadband Network Developed by Public-Private)	
Partnership)	

AMENDED REQUEST FOR WAIVER

**Respectfully Submitted on Behalf of
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AMENDED REQUEST FOR WAIVER

I. SUMMARY OF AMENDED REQUEST

Pursuant to Section 1.925(b) of the rules of the Federal Communications Commission ("FCC" or "Commission"), the City of Boston (the "City" or "Boston") respectfully amends its request for waiver of the Commission's rules to enable it to deploy an interoperable public safety wireless broadband network in the 700 MHz public safety allocation of 758-768MHz and 788-798MHz.¹ This amended waiver request emphasizes that the City is committed to employ the state of art technology to deploy and participate in a highly robust and interoperable public safety wireless broadband network for both voice and data which can be shared and accessed by its first responders in Boston and across the Metro Boston Homeland Security region. As shown below, the requested waiver will serve the public interest by significantly improving communications for first responders today without sacrificing any of the policy goals the Commission is seeking to achieve in its 700 MHz rulemaking.

¹ See Request by The City of Boston for Waiver of the Commission's Rules to Deploy a 700 MHz Public Safety Interoperable Broadband Network That Can Be Integrated into the Public-Private Partnership, PS Docket No. 06-229 (filed Dec. 11, 2008, the "Initial Waiver Request"). Please note that this Amended Waiver supersedes and completely replaces the Initial Waiver Request filed on December 11, 2008.

The City of Boston has identified public safety interoperable broadband wireless services as a priority. For all the reasons stated herein, Boston believes immediate deployment in the 700 MHz spectrum is an imperative for our public safety agencies and is prepared to make the capital investment necessary to begin deployment of a network in the 700 MHz public safety broadband spectrum (the “Proposed Network” or “Boston Network”). As outlined herein, prompt action to approve this waiver request will enable the City to apply for funding from NTIA to enable full and rapid deployment of a public safety broadband wireless network throughout Boston.

The Boston Network will meet the technical specifications the FCC has proposed in the *Third Further Notice* in this proceeding.² The City will insure that the Boston Network will be capable of being integrated into any national or regional network that may subsequently be developed under the Commission’s rules. The City will further insure that the Boston Network will be brought into complete conformance with any subsequently issued FCC rules governing interoperability. The City acknowledges and accepts the FCC’s current rules governing compensation in the event there is a final decision to establish a public-private partnership to manage the build out and deployment of a nationwide network.³

Because it is likely that the Shared Wireless Broadband Network contemplated by the Commission in its current proceeding is possibly many months if not years away from deployment, the City asks the Commission to help Boston meet the public safety imperatives outlined herein by acting favorably and promptly on this amended waiver request.

² See *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band*, WT Docket No. 06-150 and PS Docket No. 06-229, *Third Further Notice of Proposed Rulemaking*, FCC 08-230 (rel. Sept. 25, 2008) (“*Third Further Notice*”).

³ See *Service Rules for the 698-746, 747-762 and 777-792 MHz Band*, WT Docket No. 06-150, Second Report and Order, 22 FCC Rcd 15289 (2007) (the “*Second Report and Order*”) recon. pending. In the *Second Report and Order*, the Commission adopted a broad range of rules that would establish a public-private partnership to govern the build-out and deployment of public safety network.

II. WAIVER IS THE FASTEST WAY TO IMPLEMENT 700 MHZ NETWORK AND AVOID INHERENT DELAYS OF THE RULEMAKING

A. TIMING FOR FINAL COMMISSION ACTION IS UNCERTAIN

It has been eleven years since Congress directed that 24 MHz of spectrum in the Upper 700 MHz Band be allocated for public safety communications. With DTV transition just days away, this spectrum will soon become available for improved first responder communications. However, despite the Commission's significant efforts to establish a 700 MHz Public/Private Partnership for interoperable public safety broadband communications throughout the United States, the D Block Auction failed to generate a qualified winner.⁴ Achievement of this critical public safety objective remains uncertain and local jurisdictions remain without a clear path to achieving interoperable public safety broadband communications.

In the pending 700 MHz docket, the Commission has proposed revised rules that retain the Public/Private Partnership concept and set forth detailed technical and operational parameters for a shared network⁵. Specifically, the current rules reserve to the Upper 700 MHz D Block licensee "the exclusive right to build and operate the Shared Wireless Broadband Network."⁶ There are two exceptions to this general rule, which allow local public safety entities, with the approval of the Public Safety Broadband Licensee, to construct broadband networks at their own expense:

(1) in areas where the Upper 700 MHz D Block licensee has committed in a Network Sharing Agreement to build out a network by a certain (later) date, and

(2) in areas where the Upper 700 MHz D Block licensee is not required by a Network Sharing Agreement to build out.

⁴ See *Second Report and Order*.

⁵ See *Third Further Notice*

⁶ 47 C.F.R. §§ 27.1330 & 90.1430(a).

Neither of these exceptions provides jurisdictions with the ability to immediately deploy broadband services that will benefit public safety and the public at large. The *Third Further Notice* acknowledges this fact and seeks comment on a proposal to revise the early build-out rules to allow jurisdictions to deploy local networks that can be integrated into the regional or national network. The City supports such a proposal. Our first responders have a pressing need to access state-of-the-art communications capabilities. Important public safety operational needs are difficult if not impossible to meet each day the initiation of public safety wireless broadband services is delayed. In the absence of quick action to finally resolve the pending rulemaking, the City asks the Commission to grant the waiver so Boston can begin immediate deployment of a public safety broadband network in the 700 MHz band.⁷

B. 4.9 GHz DOES NOT MEET BOSTON'S PUBLIC SAFETY NEEDS

The City of Boston is currently in the process of designing a public safety wireless network to support our first responders – the Boston Police Department, the Boston Fire Department, and the Boston Emergency Medical Services⁸. Because of the unavailability of 700 MHz, the City has been forced to plan to deploy such network within the less-efficient 4.9 GHz band. We applauded the Commission's recent actions to enable the City to deploy certain useful applications in 4.9 GHz, such as emergency video surveillance.⁹ Nevertheless, 4.9 GHz spectrum is no substitute for 700 MHz. Specifically, a 4.9 GHz network has significant

⁷ In addition to the concern that prompt resolution of the pending docket is unlikely, it is unclear whether the next Upper 700 MHz D Block auction will be a success or whether there will be nationwide coverage. Indeed, given current economic and financial conditions, it is questionable whether any private entity would be willing to undertake the investment necessary to build the shared network. These risks can be substantially mitigated by waiver approval.

⁸ It must be noted that our system is intertwined with Massachusetts State Police, City of Cambridge, and Massachusetts Port Authority, which, among other things, manages the Logan Airport, a major hub in the New England region.

⁹ See *Amendment of Part 90 of the Commission Rules, Report and Order and Further NPRM*, FCC 09-29, WP Docket 07-100 (Adopted April 7, 2009, Released April 9, 2009)

drawbacks including: 1) interoperability is undermined by the lack of technical standards and the absence of regional planning;¹⁰ 2) the band's poor propagation characteristics undermine the large-area coverage required to support public safety operations in the City, a problem exacerbated for the greater Boston region, and 3) the cost to deploy and maintain this system is higher than expected due to the large amount of infrastructure required to maintain adequate coverage. Use of the 700 MHz band would allow Boston to achieve greater interoperability, cost effectiveness, and increased coverage because of the 700 MHz band's superior propagation characteristics.

FCC action to approve a waiver for Boston is needed to achieve these benefits and obviate the need for Boston to expend scarce capital resources to deploy a 4.9GHz network.

III. THE CITY OF BOSTON HAS IDENTIFIED PUBLIC SAFETY BROADBAND COMMUNICATIONS AS A PRIORITY AND IS PREPARED TO DEPLOY AN INTEROPERABLE BROADBAND NETWORK IN THE 700 MHz BAND.

A. BOSTON'S DEPLOYMENT PLAN

As previously mentioned, because of its limitations, a 4.9 GHz deployment can only cover a few city neighborhoods, and it is not suitable for sustained citywide long term deployment. However, a 700 MHz public safety broadband wireless network can provide a superior quality of service, accomplish citywide coverage, benefit the neighboring jurisdictions and will be cost effective.

Specifically, the City's plan calls for 700 MHz network build-out and deployment to cover the entire 47 square miles of Boston proper as well as neighboring towns of Cambridge, Somerville, Brookline, Winthrop, Hull and Quincy. The investment by the City of Boston in the

¹⁰ A prime example of this problem is found in the Cities of Boston and Brookline, which are adjacent to one another. Each has obtained licenses to use the 4.9 GHz spectrum, but the two cities have no ability to interoperate over this spectrum because of the absence of a technical standard.

core infrastructure to be deployed in Boston will function as a launch point for regional build out that will cover all the Metro-Boston Homeland Security Region.¹¹ Boston has spoken with the neighboring potential beneficiaries and has received strong support for our Network plans.

The City has committed capital funding in its FY10 budget, beginning on July 1, 2009, that, upon receipt of waiver, will allow us to commence immediate deployment in the high call volume inner city neighborhoods of Roxbury, Dorchester, Mattapan, Jamaica Plain and the Downtown government and business district with coverage extending east to include Logan International Airport, managed by the Massachusetts Port Authority (MASSPORT.) The City has identified 5 current public safety radio sites for the initial deployment. All identified sites are municipally owned facilities that are currently served by the City of Boston Fiber Optic Network (BoNET). Phase one of this deployment is estimated to reach over 50% of the City and we believe by leveraging these sites along with our investment in BoNET it can be completed by September 2010, assuming prompt action to approve this waiver request. The City would easily complete deployment in its phase one deployment plan objectives if it could supplement its current committed capital budget with broadband stimulus funding.

Phase two deployment will build on the phase one infrastructure and cover the remainder of the City plus extend into the adjacent communities. Without stimulus funding, the timeframe for completion of Phase 2 is uncertain as the FY11 capital budget of the City has not been set and may not be sufficient to finish all the coverage in the City plan. If the City is able to apply for and is successful in receiving an NTIA broadband stimulus grant, we would not need to phase the deployment of the network but rather would move forward to speedily deploy simultaneously both phases outlined above with an anticipated total completion date of

¹¹ Metro Boston Homeland Security Region or MBHSR consists of nine jurisdictions in the Commonwealth, Boston, Brookline, Cambridge, Chelsea, Everett, Quincy, Revere, Somerville, and Winthrop

December, 2011. This would be consistent with the stimulus funding requirement that all grant money be expended within two years of receipt.

It is in the optimal interests of Boston to be able to complete deployment of the 700 MHz network to coincide with the implementation of a new state of the art Computer Aided Dispatch and Record Management system for Public Safety. The Computer Aided Dispatch project is fully funded and is scheduled for implementation beginning in early 2010.

If the FCC issues a waiver to Boston in time for us to apply for broadband stimulus funding (estimated application deadline is August 2009 as outlined herein), all of these objectives can be realized in a timely fashion with significant benefits to the City and the surrounding neighboring cities and towns. Without stimulus funding, network construction can begin immediately upon receipt of waiver but complete deployment will take more time since it likely will be wholly dependent on City capital budgets for upcoming fiscal years which are undetermined.

**B. RECEIPT OF WAIVER IN TIME TO APPLY FOR STIMULUS FUNDING
WOULD GREATLY FACILITATE BOSTON'S 700MHZ DEPLOYMENT**

As part of the federal stimulus package, NTIA will be administering a \$4.7 billion broadband grant program, with special emphasis on funding public safety infrastructure initiatives. If Boston is able to apply for NTIA broadband stimulus funding and receives a grant to supplement Boston's already committed capital, Boston estimates that citywide coverage would be completed by December, 2011, as outlined in more detail in section A. above.

Boston believes that for its NTIA grant application to be credible to reviewing officials, Boston must have received FCC approval of its 700 MHz waiver request before the grant application deadline. That application deadline is anticipated to be August 2009.

NTIA has projected that it will issue grant guidelines by the end of June 2009. Boston will be applying for funding for a variety of broadband initiatives in phase one of the NTIA process. The deadline for NTIA to award first round grants is December 31, 2009.

If the FCC grants Boston's waiver in time for Boston to apply for NTIA funding (i.e. waiver approval by approximately July 31, 2009 or shortly thereafter, and if Boston is successful in its NTIA broadband grant application, Boston would be proud to be a showcase that illustrates the federal government commitment to rapidly advancing state of the art public safety broadband wireless communications.

C. THE BENEFITS OF A 700 MHz BROADBAND WIRELESS NETWORK TO BOSTON'S PUBLIC SAFETY ENTITIES.

Boston intends to make the 700 MHz broadband wireless network available to all public safety "first responders". The initial users will be the Boston Police Department, the Boston Fire Department and the Boston Emergency Medical Services. As the network capability expands and we gain a better understanding of the capacity of the network, we plan to extend the user base to include the Boston Public Health Commission, Animal Control and other allowable entities. Specifically, the 700MHz network will be made available only to agencies that fall squarely within the statutory definition of public safety services as defined in 47 USC 337 (f) (1).

The benefits of a 700 MHz broadband wireless network to these public safety entities are significant. In addition, the constituents, students and visitors of the City will greatly benefit from the enhanced capabilities of their first responders. For example:

- The Boston Police Department (the "BPD") does not currently provide commercial wireless broadband service to its patrol fleet due to the prohibitively high recurring monthly charges that would be incurred with commercial wireless service. Current wireless connectivity is provided by a 19.2Kbit legacy 800 MHz data system which delivers data from the Computer Aided Dispatch System (CAD) system. Because of the lack of mobility and connectivity, the police officers must return to their district stations to access routine criminal justice information, such as photographs used to

identify individuals. Police officer efficiency and patrol time on the streets is greatly impaired by the need to return to the station house to file incident reports, download key investigative data and perform a myriad of functions which would be readily available to officers in the field if broadband data access was available. The Boston Police Command Staff has made it a priority to implement wireless broadband to increase the time that officers are on the street.

- The Boston Fire Department (BFD) has one of the most advanced mobile computing platforms in the country. Each frontline vehicle is equipped with multi-modal wireless capabilities to include WiFi and WAN. The BFD is currently in the process of building out a tactical video system to allow incident commanders to view video on the fire ground and simultaneously feed the fire ground video back to the Fire Command Center. The current BFD use model stores all pre-plan and mapping information locally on the vehicle computer. When the 700MHz broadband network is deployed they will use the broadband network to deliver pre-planning and mapping data from a centralized server. This change in use model will ensure the responders have the most current information available to them. The BFD currently uses commercial broadband service for all front line Fire Department Companies, but they would like to expand the MCT program to additional special service vehicles. Due to operating budget constraints, additional use of this commercial service has been put on hold pending the availability of the city-operated public safety wireless network (700MHz, or other wireless modality) that would reduce direct reoccurring operating expense.
- Boston Emergency Medical Services (EMS) currently employs commercial wireless broadband service for their Electronic Patient Care Reporting system but uses the Boston Police 19.2Kbit network for CAD data. Migration to the 700 MHz public safety broadband network will enable access to other public safety departmental pre-plan information, national databases and mapping information. It will also enable instantaneous bi-directional communication of patient status to hospitals and public health officials and access to patient records to retrieve patient history when ever the patient is unable to verbally communicate.
- Improved regional interoperability – the Boston Public Safety broadband wireless network would allow our nearby public safety responders to access our incident command network. Access to shared information is essential for effective incident command during public safety emergencies. The City and Metro Boston Homeland Security Region (MBHSR) are home to world renowned hospitals, public health facilities, bio-research labs, and major PSAP operations for the state and region. The City's existing system is intertwined with the State Police, which is the State's primary wireless Public Safety Answering Point for a substantial portion of Boston. The Massachusetts Port Authority located in East Boston manages the harbor port and Logan International Airport, gateways for the entire New England region. The Boston Network would dramatically improve interoperability across these agencies, improving efficiencies and communications during the ordinary discharge of public safety business and vastly improving the City and region's ability to respond in a coordinated fashion to a local, regional or national emergency.

To achieve these benefits, Boston asks the Commission to waive its rules so that the City will have the ability to deploy and operate our Network in the 700 MHz spectrum.

IV. THE REQUESTED WAIVER IS IN THE PUBLIC INTEREST AND SHOULD BE GRANTED.

The public interest will be served by allowing the City to engage in early deployment. To obtain a waiver of the Commission's rules, a petitioner must demonstrate either that (1) the underlying purpose of the rule(s) would not be served or would be frustrated by application to the present case, and that a grant of the waiver would be in the public interest, or (2) in view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative.¹² As illustrated herein, under either of these standards, the requested waiver is justified.

A. GRANT OF THE WAIVER WILL ENABLE RAPID DEPLOYMENT AND THE UNIQUE OPPORTUNITY TO UTILIZE STIMULUS FUNDING TO SUPPORT DEPLOYMENT, WITHOUT UNDERMINING THE COMMISSION'S 700 MHZ PUBLIC-PRIVATE PARTNERSHIP VISION.

The tragic events of September 11, 2001 and Hurricane Katrina made clear that public safety entities need more interoperable communications capabilities. Regardless of whether the FCC's recently proposed rules may succeed in attracting one or more commercial D Block licensees, the reality is that the deployment of a nationwide network from which local public safety entities can obtain broadband services is likely years away. The City is ready to commit resources to bridge this time gap so that our first responders can utilize broadband wireless technology to protect life and property in the very near term. Under the conditions for waiver

¹² 47 C.F.R. § 1.925(b)(3). Waiver applicants face a high hurdle and must plead with particularity the facts and circumstances that warrant a waiver. *WAIT Radio v. FCC*, 413 F.2d 1153, 1157 (D.C. Cir. 1969) (*WAIT Radio*), *aff'd*, 459 F.2d 1203 (1973), *cert. denied*, 409 U.S. 1027 (1972).

that Boston has specified and pledged to abide by, the expeditious deployment of the Network is wholly consistent with the underlying purposes of the Commissions rules and denial of the waiver would only frustrate speedy achievement of those purposes.

In Washington, D.C., the National Capital Region (NCR) public safety wireless broadband network is a prime example of how public safety entities can make use of this valuable 700 MHz spectrum today ahead of a Public/Private Partnership deployment. The City asks to be afforded a similar opportunity.

In light of the pledges Boston makes to construct its network with state of the art interoperable technology and to conform the network to any subsequently issued FCC requirements on interoperability, and in light of the unique opportunity to take advantage of the one-time availability of federal stimulus funding to facilitate network deployment, the public interest requires that the City of Boston be granted this waiver.

B. BOSTON'S PROPOSED NETWORK WILL BE STATE OF ART, AND WILL SATISFY ALL OF THE TECHNICAL SPECIFICATIONS PROPOSED BY THE COMMISSION IN THE *THIRD FURTHER NOTICE*.

As mentioned previously, the City is committed to build, support and participate in a robust, shared and highly interoperable public safety wireless broadband network by deploying and employing state of the art technologies, including but not limited to Long Term Evolution. The City will insure that the FCC requirements for interoperability, existing and subsequent, will be effectuated. The City will require that all of its vendors, contractors and partners, both private and public, abide by the FCC regulations and requirements for interoperability. The public interest will be served by prompt deployment pursuant to a waiver in these circumstances.

C. THE NETWORK WILL BE SHARED BY ALL FIRST RESPONDERS ACROSS THE REGION, AND BE FULLY CAPABLE OF BEING INTEGRATED INTO A NATIONWIDE OR REGIONAL NETWORK.

The City will ensure that the proposed Network will be shared by all first responders across the region. As a key player in the Metro Boston area, the City will work closely with its contractors, vendors and partners to design, build and maintain the proposed Network in a way to be shared and accessed by all first responders from the region.¹³ The City will ensure that the Network can and will be modified to meet any FCC requirements, existing and subsequent, so it can capable of being integrated into a nationwide or regional public safety wireless network resulting from the *Third Further Notice*, if the Commission so decides.

If our request for waiver is approved, the City of Boston will obtain the approval of the Public Safety Broadband Licensee for any early deployment undertaken under the waiver, and would agree that, once the nationwide or regional network is extended into our area, we would work with the Commission and the licensee to achieve seamless integration.

D. THE FCC SHOULD ACT ONCE AGAIN TO FACILITATE INTEROPERABILITY IN THE METRO-BOSTON REGION

Boston's request for a waiver is not the first time the City has asked the Commission's leadership to accomplish public safety interoperability. Boston is the anchor city of the Metro Boston Homeland Security Region, which was formed after the September 11 attack, specifically because Boston could not communicate, interact and interoperate with its neighboring jurisdictions in an efficient manner.¹⁴ In 2007, the City obtained waiver approval from the Commission to operate at certain UHF and VHF channels in order to be interoperable with all other regional partners so our first responders from across the region achieved the

¹³ See Part II C.

¹⁴ See Part II A, and *specifically* footnote 11, *supra*.

interoperability, which has proven to be critical for the safety of the people in the region.¹⁵ The FCC responded and made this interoperability possible.

Once again, Boston looks to the Commission for leadership to waive its rules so that we will have the authority to deploy and operate the Boston Network in the “D Block”.

IV. CONCLUSION

In landmark stimulus legislation, the Congress reaffirmed the nation’s commitment to improving public safety via broadband services.¹⁶ The public interest will be best served if the FCC allows local authorities like the City of Boston to deploy its own public safety broadband network, under the terms and conditions stated herein which Boston has pledged to abide by, pending resolution of the 700 MHz Public/Private Partnership. Under the present economic climate, where the timeline for deployment of a nationwide or regional network is as yet unknown, and with the unique availability of funding from NTIA to support public safety broadband deployment, timely approval of Boston’s waiver will let Boston move expeditiously to achieve important national public safety objectives for Boston and the region.

Boston respectfully asks the Commission to act quickly to approve this amended waiver request.

¹⁵ See 512 MHz Order

¹⁶ See generally American Recovery and Reinvestment Act.